AOC-11a: Administration Building
Hess Corporation - Former Port Reading Complex
(HC-PR)
750 Cliff Road,
Port Reading, Middlesex County, New Jersey
NJDEP PI# 006148
ISRA Case No. E20130449
EPA ID No. NJD04544548

Indoor Air Sampling Event – Administration Building

A Remedial Investigation Workplan (RIW) was submitted to the New Jersey Department of Environmental Protection (NJDEP) and Environmental Protection Agency (EPA) for AOC 11a – Administration Building on April 6, 2016 **(Attachment 1)** and approved on May 30, 2017 (**Attachment 1**). The approved RIW activities included the collection of both indoor air samples and sub-slab soil gas samples concurrently, but recommended analysis of only the sub-slab soil gas samples. This approach is consistent with the VI guidance document which states that the, "investigator is only required to conduct an IA investigation when COC are detected in the subsurface exceeding the applicable VI screening levels," and the guidance document also explains that indoor air sampling is generally the last investigative step in the evaluation of the VI pathway. The NJDEP recognizes that the collection of indoor air samples is necessary when the potential for VI exists and other "investigative tools cannot eliminate the VI pathway."

Due to the age of the building, as-built drawings are not available and cannot be utilized in the evaluation of potential pathways. In addition, due to questionable building integrity and potential structural issues, no invasive work can be conducted to determine building construction details. Therefore, Earth Systems is proposing the collection and analysis of indoor air samples for the first floor of the administration building since building construction information is not available to evaluate potential preferential VI pathways. The approach and methodology for this proposed sampling is consistent with the approach outlined in the approved 2016 RIW, with the exception of the timing and sampling locations. Based on the analytical results from the first-floor indoor air samples, additional sampling may be recommended for the second floor of the building.

The indoor air sampling event will be performed in the Administration Building over a two-day period. Prior to conducting the indoor air sampling, an Earth Systems representative will conduct a pre-sample walkthrough and building survey (**Attachment 2**) to identify potential background sources of indoor air contamination, remove potential background sources (if any), identify sample locations, and discuss the *Instructions for Occupants (***Attachment 3***)* sheet with the occupants (if necessary). Observations of any potential background sources and any removal of potential background sources will be documented on the Survey Form (**Attachment 2**), as well as in all subsequent data

evaluations and reports. Summa canisters (6-liter) will be placed on the first floor of the Administration Building to collect indoor air samples over a 24-hour period. In addition, one canister will be placed on the exterior grounds of the property in an upwind location as a background ambient air sample. Based upon the square footage of the building, the number of indoor air samples that will be collected is summarized as follows:

Location	Square Footage	Number of Indoor Air Samples
Main Floor (1st Floor)	17,400	5
Exterior	NA	1 (ambient air)

On the second day, Earth Systems will return to the site and retrieve the indoor/ambient air canisters. All sample canisters will be submitted for VOC analyses by the USEPA TO15 (plus Tentatively Identified Compounds) method. The NJDEP's Indoor Air Sampling Form will be completed for the interior sample locations (**Attachment 2**). The proposed locations of the indoor air samples are illustrated on **Figure 1**.

A summary of the analytical results will be provided to all parties approximately two weeks after the analytical results are received. Recommendations for additional sampling, if necessary, will also accompany the analytical results summary. In addition, both the proposed and historic VI results will be included in the final Remedial Investigation Report for AOC 11a and the CA725 Report.

Indoor Air Sampling Timing

As per Section 3.5.6 of the NJDEP VI Guidance Document, when indoor air samples are being collected as the primary assessment tool, the sampling event should be scheduled for the heating season (between November 1 and March 31). However, as explained above, the indoor air samples that are proposed are not the primary tool being used to evaluate potential VI pathways. Moreover, this sampling is proposed to be conducted in the near future to allow for indoor air data to be included in the CA725 that will be submitted to the EPA in mid-August 2020. During data evaluation, the timing of the proposed indoor air sampling event will be factored into the evaluation of the analytical results that they could be potentially biased low. However, the indoor air results will be evaluated in conjunction with multiple lines of evidence including historic sub-slab soil gas and indoor air sampling results.

Figures

AD-1

AD-2
AD-2DD

West Basement

East Basement

AD-5D

AD-6

AD-4

AD-3D
AD-3

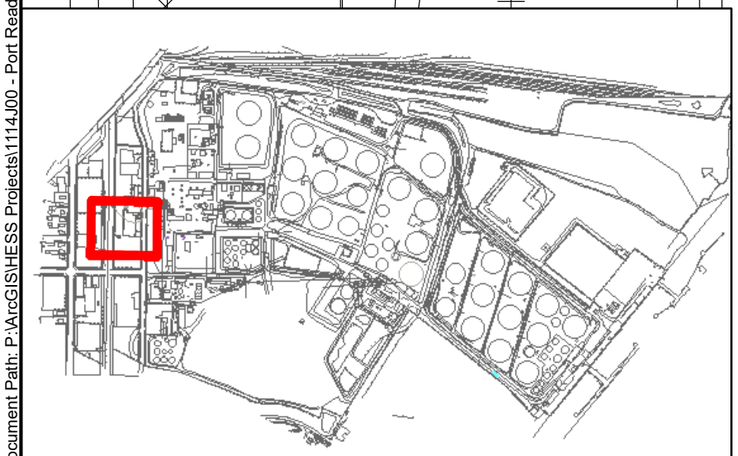
2nd Level Cafeteria

AD-9DD
AD-9D
AD-5

AD-10
AD-10DD

1 inch = 40 feet

0 40 80 Feet



Document Path: P:\ArcGIS\HESS Projects\1114J00 - Port Reading Hess\1114J01 - Sitewide\GIS\Port Reading - Administration Building Floor Plan.mxd

LEGEND

- Monitoring Well
- Proposed Indoor Air Sample Location

ADMINISTRATION BUILDING FLOOR PLAN

Hess Former Port Reading Complex
750 Cliff Road
Port Reading, New Jersey

FIGURE: 1

Drawn By: KJ	**Date :** 5/26/2020

Earth Systems
Environmental Engineering
1625 Highway 71, Belmar, NJ 07719
T. 732.739.6444 | F. 732.739.0451

Attachment 1

AOC 11a – Administration Building
Remedial Investigation Workplan Excerpt
Submitted – 04/6/2016
Approved – 05/30/2017

4.1 Vapor Intrusion Investigation

Analytical data from the most recent groundwater sampling event at the Administration Building on November 17, 2015 indicated that several VOCs exceeded their respective NJDEP Groundwater Screening Levels (GWSL) as summarized below:

Compound	Monitoring Well ID	Concentration (ppb)	NJDEP GWSL (ppb)
1,1-dichloroethane	AD-2	484	50
	AD-5D	1,530	50
1,2-dichloroethane	AD-2	4.7	3
	AD-4	3.1	3
	AD-5D	50.7	3
1,1-dichloroethene	AD-2	2,980	260
	AD-5D	11,300	260
1,2-dichloropropane	AD-2	23	4
	AD-5D	144	4
Tetrachloroethene (PCE)	AD-2	298	31
	AD-5	1,150	31
	AD-5D	184	31
Trichloroethene (TCE)	AD-2	75.2	2
	AD-3D	7.8	2
	AD-5	527	2
	AD-5D	110	2
Vinyl Chloride	AD-2	80	1
	AD-5	20.3	1
	AD-5D	94.9	1

In accordance with the NJDEP's *Vapor Intrusion Technical Guidance (Version 3.1, March 2013),* the NJDEP requires a VI investigation where buildings are within 100 feet horizontally or vertically of shallow groundwater contamination in excess of the GWSL that is not petroleum hydrocarbon (PHC)-related. It should be noted that this 100 foot trigger distance is applied from the edge of the suspected groundwater plume based on linear interpolation and not from a contaminated monitoring well when determining which buildings should be investigated.

The VI investigation will be performed in the Administration Building over a two day period. The first day, Summa canisters will be placed on each floor of the Administration Building

to collect indoor air samples over a 24-hour period. In addition, one canister will be placed on the exterior grounds of the property in an upwind location as a background ambient air sample. Based upon the square footage of each floor, the number of indoor air samples that will be collected is summarized as follows:

Location	Square Footage	Number of Indoor Air Samples
Basement	2,025	2
Main Floor (1st Floor)	17,400	4
Second Floor	3,450	2
Exterior	N/A	1 (ambient air)

The second day, Earth Systems will return to the site and retrieve the indoor air canisters. In addition, sub-slab vapor samples will be collected beneath the basement floor. The samples will be collected by drilling a small diameter hole through the floor and inserting a tube to collect the sub-slab vapors. The boring's annular space will be grouted to prevent indoor air from being drawn down into the tube. Furthermore, a helium shroud will be placed over the borehole and a helium detector will be used to screen the tubing to ensure that the grout is solid without helium being drawn into the tube by the sampling vacuum.

Based upon square footage of the basement, a total of three (3) sub-slab vapor samples will be collected. All sample canisters will be submitted for VOC analyses by the USEPA TO15 method. The NJDEP's Indoor Air Sampling Form will be completed for the interior sample locations. The sub-slab vapor samples will first be analyzed with the indoor air samples placed on hold. The indoor air samples will be analyzed should contaminants be detected in the vapor samples at concentrations that trigger the indoor air analyses.

As a supplement to the Remedial Investigation Report (RIR), a Vapor Investigation Report (VIR), as well as the associated NJDEP forms, will be submitted to the NJDEP and NJ Department of Health (if indoor air samples are analyzed). In addition, laboratory result letters and summary tables will be provided to the owner of the Administration Building (Buckeye) and the Woodbridge Township Health Department. The proposed locations of the sub-slab soil gas and indoor air sample are illustrated on **Figure 5**.

As there was a potential for the presence of volatile compound vapors to migrate through the subsurface soils along preferential pathways, potentially impacting the indoor air quality of the Administration Building, the VI investigation was completed in January 2016. The analytical results will be summarized and discussed in the future Remedial Investigation Report (RIR) submittal.

From: Park, Andy
To: JSchenkewitz@hess.com; John Virgie
Cc: Phil Cole; Rick Ofsanko
Subject: RE: Port Reading Administration Building (AOC 11a) RIWP
Date: Tuesday, May 30, 2017 10:17:00 AM
Attachments: Hess AOC 11A Administration Bldg RI WP Comments.pdf

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Good morning,

Please see attached NJDEP's review on Hess' Response dated March 24, 2017 and the April 2016 RIWP concerning AOC 11a at the Hess Former Port Reading, NJ site. Based on EPA's and NJDEP's review, the RIWP is approved with conditions. The concerns and issues as identified in EPA's May 4, 2017 review and NJDEP's May 26, 2017 review must be addressed in the RI report submission. Please provide EPA and NJDEP with detailed schedule to the completion of the RIWP and also notify EPA and NJDEP of all field investigation activities 14 days prior to the commencement of work.

If you have any questions or require more information, please contact me.

Regards,

Andrew Park
Hazardous Waste Programs Branch
U.S. Environmental Protection Agency Region 2
290 Broadway, 22nd Fl.
New York, New York 10007-1866
212-637-4184 (O)
park.andy@epa.gov (E-Mail)

From: Park, Andy
Sent: Thursday, May 04, 2017 10:30 AM
To: JSchenkewitz@hess.com; 'John Virgie' <jvirgie@earthsys.net>
Cc: Phil Cole <Phil.Cole@dep.nj.gov>; Rick Ofsanko <rofsanko@earthsys.net>
Subject: RE: Port Reading Administration Building (AOC 11a) RIWP

Good morning,

Please see attached EPA's review on Hess' Response dated March 24, 2017 and the April 2016 RIWP concerning the Administration Building (AOC 11a) at the Hess Former Port Reading, NJ site. You will also be provided with NJDEP's review, if and when available. If you have any questions or require more time, please contact me.

Regards,

Andrew Park
Hazardous Waste Programs Branch
U.S. Environmental Protection Agency Region 2

290 Broadway, 22nd Fl.
New York, New York 10007-1866
212-637-4184 (O)
park.andy@epa.gov (E-Mail)

From: John Virgie [mailto:jvirgie@earthsys.net]
Sent: Friday, March 24, 2017 11:01 AM
To: Park, Andy <Park.Andy@epa.gov>
Cc: Phil Cole <Phil.Cole@dep.nj.gov>; JSchenkewitz@hess.com; Rick Ofsanko <rofsanko@earthsys.net>
Subject: Port Reading Administration Building RIWP Response Letter to EPA

Andy,

Attached are Earth Systems, Inc.'s, on behalf of Hess Corporation, responses to comments from your e-mail dated February 24, 2017 regarding the Remedial Investigation Workplan (RIW) for the Administration Building (AOC 11a) at the Hess Corporation – Former Port Reading Complex (HC-PR) in Port Reading, New Jersey. Please contact me if you have any additional comments or questions.

Phil - Your hardcopies to follow in the mail.

Thanks.

John Virgie, PG, LSRP | Senior Client Manager| jvirgie@earthsys.net
1625 Highway 71| Belmar, NJ 07719
T. 732.739.6444 | M. 862.881.6286 | F. 732.739.0451
Earth Systems

Attachment 2

New Jersey Department of Environmental Protection

INDOOR AIR BUILDING SURVEY and SAMPLING FORM

Preparer's name: _____ Date: _____

Preparer's affiliation: _____ Phone #: _____

Site Name: _____ Case #: _____

Part I - Occupants

Building Address: _____

Building Block: _____ Lot: _____

Property Contact: _____ Owner / Renter / other: _____

Contact's Phone: home ( )_____ work ( )_____ cell ( )_____

Part II – Building Characteristics

Building type: residential / multi-family residential / office / strip mall / commercial / industrial

Describe building: _____ _____

Sensitive population: day care / nursing home / hospital / school / other (specify): _____

Number of floors below grade: _____ (full basement / crawlspace / slab on grade)

Approx. depth of basement below grade surface: _____ ft. Basement size: _____ ft^2

Basement floor construction: concrete / dirt / floating / stone / other (specify): _____

Foundation walls: poured concrete / cinder blocks / stone / other (specify) _____

Basement sump present? *Yes / No* Sump pump? *Yes / No* Water in sump? *Yes / No*

Are the basement walls or floor sealed with waterproof paint or epoxy coatings? *Yes / No*

Is there a whole house fan? *Yes / No*

Type of ground cover outside of building: grass / concrete / asphalt / other (specify) _____

Existing subsurface depressurization (radon) system in place? *Yes / No* *active / passive*

Sub-slab vapor/moisture barrier in place? *Yes / No*
Type of barrier: _____

Part III – Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor and room), and whether the item was removed from the building 48 hours prior to indoor air sampling event. Any ventilation implemented after removal of the items should be completed at least 24 hours prior to the commencement of the indoor air sampling event.

Potential Sources	Location(s)	Removed (Yes / No / NA)
Gasoline storage cans		
Gas-powered equipment		
Kerosene storage cans		
Moth balls		
Air fresheners		
Fuel tank (inside building)		NA
Wood stove or fireplace		NA
New furniture / upholstery		
New carpeting / flooring		NA
Hobbies - glues, paints, etc.		
LIST OTHER IMPORTANT SOURCES IDENTIFIED:		

Part IV – Miscellaneous Items

Do any occupants of the building smoke? *Yes / No* How often? _____

Last time someone smoked in the building? _____ hours / *days ago*

Does the building have an attached garage directly connected to living space? *Yes / No*

If so, is a car usually parked in the garage? *Yes / No*

Are gas-powered equipment or cans of gasoline/fuels stored in the garage? *Yes / No*

Do the occupants of the building have their clothes dry cleaned? *Yes / No*

If yes, how often? weekly / monthly / 3-4 times a year

Do any of the occupants use solvents in work? *Yes / No*

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work? *Yes / No*

Has painting or staining been done in the building in the last 6 months? *Yes / No*

If yes, when _____ and where? _____

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process.

_____

_____

Part V – Sampling Information

Sample Technician: _____ Phone number: ( ) _____ - _____

Company: _____

Sample Source: Indoor Air / Sub-Slab / Near Slab Soil Gas / Exterior Soil Gas

Were "Instructions for Occupants" followed? Y*es / No*

If not, describe modifications: _____

Sample locations (floor, room):

Sample #	Location	Analytical Method	Sample Volume	Sample Time	Sample Date	Sampler Type	Ambient Temp (°F)

Drawing of Sample Location(s) in Building

Type of field instrument used (include summary of results): _____

Part VI - Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the sampling event? *Yes / No*

Describe the general weather conditions: _____

_____

Attachment 3

New Jersey Department of Environmental Protection
Site Remediation Program

Instructions for Occupants for Indoor Air Sampling

Representatives of _____ will be collecting one or more indoor air samples from your building in the near future. Your assistance is requested during the sampling program in order to collect an indoor air sample that is both representative of indoor conditions and avoids the common background indoor air sources associated with occupant activities and consumer products.

Please follow the instructions below starting at least 48 hours prior to and during the indoor air sampling event:

- ☑ Operate your furnace and whole house air conditioner as appropriate for the current weather conditions
- ☑ Do not use wood stoves, fireplaces or auxiliary heating equipment
- ☑ Do not open windows or keep doors open.
- ☑ Avoid using window air conditioners, fans or vents
- ☑ Do not smoke in the building
- ☑ Do not use air fresheners or odor eliminators
- ☑ Do not use paints or varnishes (up to a week in advance, if possible)
- ☑ Do not use cleaning products (e.g., bathroom cleaners, furniture polish, appliance cleaners, all-purpose cleaners, floor cleaners)
- ☑ Do not use cosmetics, including hair spray, nail polish remover, perfume, etc.
- ☑ Avoid bringing freshly dry cleaned clothes into the building
- ☑ Do not engage in hobbies indoors that use solvents
- ☑ Do not apply pesticides
- ☑ Do not store containers of gasoline, oil or petroleum based or other solvents within the building or attached garages (except for fuel oil tanks)
- ☑ Do not operate or store automobiles in an attached garage
- ☑ Do not operate gasoline powered equipment within the building, attached garage or around the immediate perimeter of the building

You will be asked a series of questions about the structure, consumer products you store in your building, and occupant activities typically occurring in the building. These questions are designed to identify "background" sources of indoor air contamination. While this investigation is looking for a select number of chemicals related to the subsurface contamination, the laboratory will be analyzing the indoor air samples for a wide variety of chemicals. As a result, chemicals such as tetrachloroethene that is commonly used in dry cleaning or acetone found in nail polish remover might be detected in your sample results.

Typical air sampling canister

Your cooperation is greatly appreciated.
If you have any questions about these instructions, please feel free to contact

_____ at _____